

Navajo Abandoned Uranium Mine

Site Screen Report

This form is for use at the site of abandoned uranium mines (AUM) located on Navajo Nation lands. Applicable sites include all mine and mine features that have or have not undergone reclamation by the Navajo Abandoned Mine Lands Reclamation Program, including features, adits, pits and waste piles. Applicable sites also include all AUM sites listed in the USEPA CERCLIS database, all sites listed in the 2008 AUM GIS Report issued by USACOE and USEPA, all AUM sites on allotment lands associated with the Navajo Nation, and any and all AUM sites not listed in any database located on Navajo lands. Reconnaissance of any sites located on lands adjacent to Navajo lands that may be impacting Navajo lands will need to be coordinated with the authorities appropriate to those lands.

The purpose of the form is to ascertain the status and location of the identified AUM site, and record all immediate site information associated with the mine site. Decisions and recommendations on what additional steps are needed will be provided on a separate document.

Rocky Spring AUM Site

Navajo AUM Northern Region

Prepared by:

Weston Solutions, Inc.

Contract: W91238-06-F-0083

12767.063.496.1111

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Part I Site Identification, Location and Status**Site Names and ID numbers as applicable****Mine ID:** 432**Map ID:** N264**CERCLIS:** NNN000908894**Navajo Abandoned Mine Land Reclamation Program:** None**Local name / Aliases:** J. Chee**Chapter and local area:** Red Valley Chapter**County:** Apache**State:** Arizona**Lat/Long:** 36.5271290626 N / -109.05401466 W**Nearby road and highway:** Indian Route 63**Local Post Office:** Red Rock, AZ**Surface Land Status: check one or more and provide ownership and contact information below**

Tribal Trust Land ☒
Private ☐
Bureau of Land Mgmt ☐
State ☐

Public lands ☐
Tribal Fee Land ☐
Allotment ☐
Fee land ☐

Subsurface Mineral Rights:

No information on subsurface mineral rights ownership was found in the EPA/AUM Database.

Claim and operator information:

The mine site surface land status is classified as Tribal Trust Land. Historical documents showed the operator of the mine as Jerome Chee in 1951. No other historical ownership / lease information was identified in the EPA/AUM database.

Number of residential structures within 200 feet of mine:

None

Estimated volume of mine waste onsite:278 yd³

Part II Summary of radiological readings

Highest gamma radiation measurement:

15,418 counts per minute (cpm)

Describe any other radiological measurements:

A total of 2,790 gamma radiation measurements were collected from the mine site, ranging from 4,349 cpm to 15,418 cpm. Measurements in the vicinity of the waste debris, nearby homes, and well locations were consistent with background levels, ranging from 7,000 to 12,000 cpm. The measurements are represented in Figures 1 and 2.

Background Locations

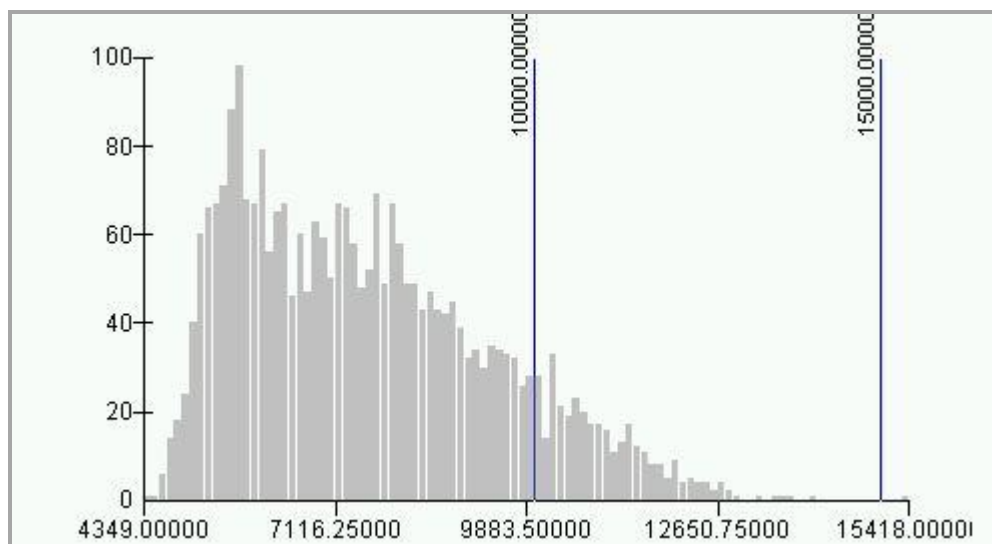
#1 7,480 cpm

#2 7,801 cpm

Average background = 7,591 cpm

Distribution Chart and Statistics:

The following chart and statistics were generated by ESRI ArcGIS 9.3.1, and show the general distribution of the site gamma radiation measurements. The horizontal X axis represents the gamma radiation reading levels in cpm (lowest levels to the left). The vertical Y axis represents the frequency of each gamma radiation level.



Count:	2790
Minimum:	4349.00000
Maximum:	15418.00000
Sum:	21132671.00000
Mean:	7574.43405
Median:	7303.50000
Standard Deviation:	1835.23557

Part III Status of Reclamation and Mine Waste

The following information was obtained from the Navajo Abandoned Mine Land Reclamation Program (NAMLRP) Point Features Database:

NAMLRP Status of the mine site: Reclaimed : No Waste Pile onsite : Yes

NAMLRP Project Number: None

NAMLRP Mine features: 1 Rim Strip / Pit

The following information was obtained from field observations collected during the 2009 site screening:

Provide description and status of all mine sites and features at site. Include all waste piles, adits, pits and other features, and indicate whether they are open, closed, covered, capped, buried or unreclaimed. Indicate approximate size, shape and extent, including description of any reclamation caps. Note condition of all caps.

Observed reclamation work and status:**Adits**

None

Waste Piles

Waste piles observed east of the road on the mesa, red clay continues downslope, piles pushed as berm along road, 30' x 50', with a total estimated volume of 278 yd³

Pits

None

Shafts

None

Other Debris and Mine Features

None

Part IV

Site observations and Environs

Observed Structures: list number of and describe human habitation status of structures at the following distances from mine:

0 to 200 feet: None

200 feet to 0.25 mile: 3 housing compounds within 0.25 miles of the site: housing compound to the northeast is located approximately 350' from the site; 2 are located to northwest, at approximately 1,000' and 0.25 miles, respectively

Observed Public or commercial structure: list and describe all schools, clinics, Chapter Houses, places of business and any other structure used by members of the community at the following distances:

0 to 200 feet: None

200 feet to 0.25 mile: None

Levels measured around the perimeter(s) of the identified structure(s):

Radiation measurements collected near all the housing compounds ranged from 7,000 cpm to 12,000 cpm.

Observed water sources: list the number and type of wells and surface water sources that are potentially used for human consumption at the following distances from the mine:

0 to 0.25 miles: Water well head in drainage at road (750' northeast); water lines running east-west along Navajo Road 131 (700' north); wells in front of houses to north-northeast of site (see above)

0.25 miles to 4 miles: None

Sensitive environments: note and describe all sensitive environments located within visible range of the mine site, including: wetlands, endangered species, habitats and approximate locations of sites that may be under protection of the government of the Navajo Nation.

None observed

Known Site History: include information from interviews with Chapter officials and residents. Note information on mine ownership, type of mining operation, period of operation, known amount of production, and any other information as provided.

Rocky Spring mine consists of an area of 18,468.74 m². The mine was identified as being operational in 1951. Historical documents showed the operator of the mine as Jerome Chee in 1951. While operational, the mine had a total reported production volume of 11 tons. No other historical information or any additional ownership / lease information was identified in the EPA/AUM database.

Part V Response Action Summary

Site Name(s): Rocky Spring **Chapter:** Red Valley

Decision Criteria

Is there an unreclaimed waste pile at the site? Yes

At what distance from the waste pile is the nearest residential structure located? 500 ft

At what distances from the waste pile are there potential drinking water sources? 500 ft

Is there a reclamation cap or sealed adit in place at the site? No

Is the cap/seal functionally intact? None

Is the cap/seal sufficiently degraded to create a concern about releases? No

At what distance from the cap/seal is the nearest domestic structure located? None

At what distance from the cap/seal is the nearest domestic drinking water source? None

Summary of emergency response factors

None

Summary hazard ranking system factors

None

Summary of reclamation factors

Unreclaimed waste pile; nearby homes and wells

Part VI Photos



Photo 1. Waste debris



Photo 2. Well along road



Photo 3. Homes to the northwest



Photo 4. Homes to the northwest



Photo 5. Homes to the northeast



Photo 6. Water well at northeast homes



Photo 7. Water line along road



Photo 8. Water wells in northwest homes



Photo 9. Water line along road



Photo 10. Water wells in northwest homes



Photo 11. Homes to the northeast



Photo 12. Homes to the northeast



Photo 13. Homes to the northeast



Photo 14. Homes to the northeast

Part VII Contacts Reports and InformationName: Stanley Edison (928) 871-6861Eugene Esplain (928) 871-7331Title or official role (if any) Navajo EPA Superfund ProgramAddress PO Box 2946, Window Rock, AZ 86515Information provided Lead Regulatory Agency

Name _____

Title or official role (if any) _____

Address _____

Telephone number _____

Information provided _____

Name _____

Title or official role (if any) _____

Telephone number _____

Information provided _____

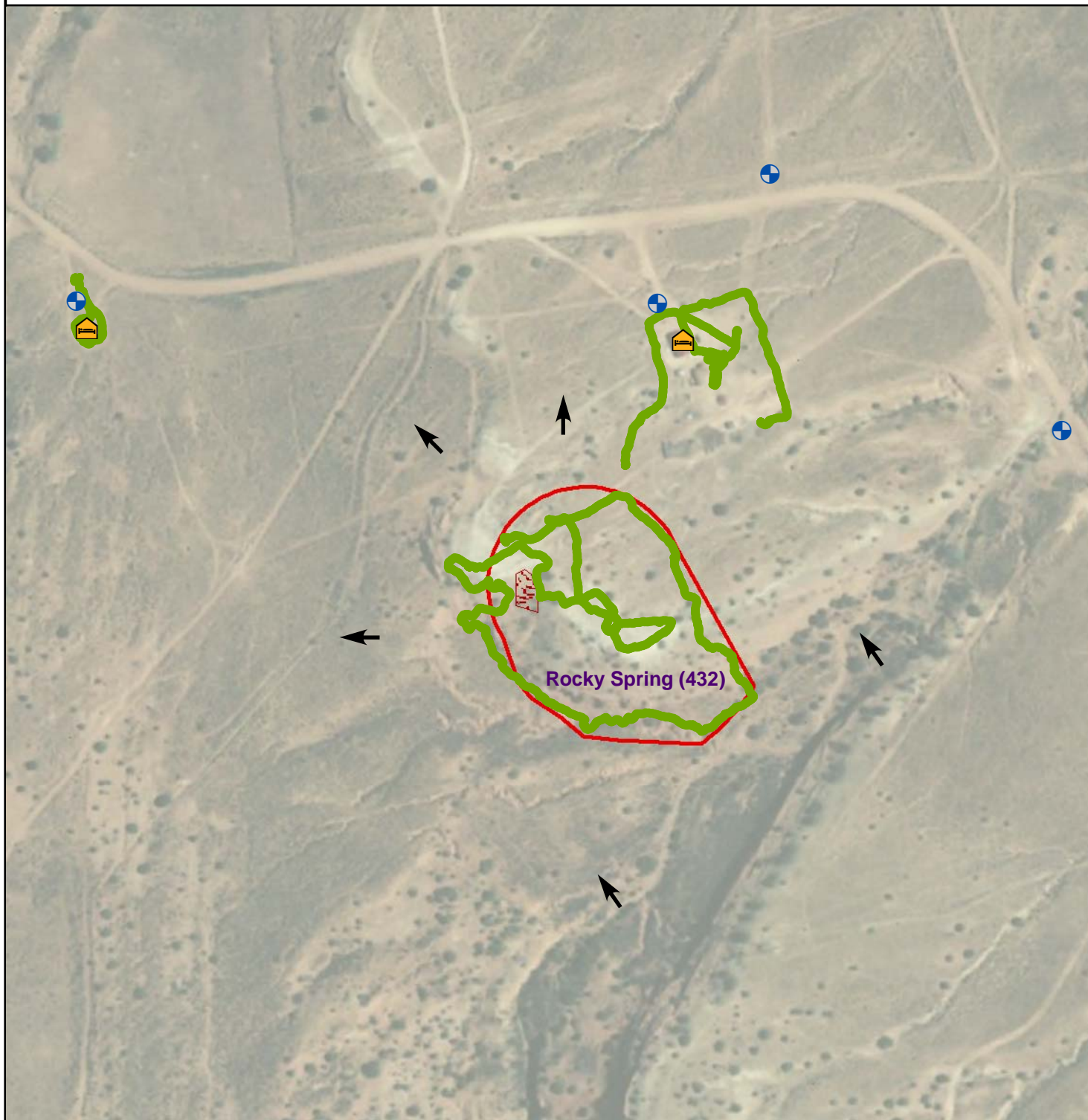
Name _____

Title or official role (if any) _____

Telephone number _____

Information provided _____

**Figure 1 - Gamma Radiation Measurements, Above Two Times Background
Rocky Spring (432)
Red Valley Chapter, Navajo Nation, Arizona**



Legend

Gamma Radiation Measurements

- < 2X Background
- > 2X Background

Gamma survey conducted 10/2009
Measured as counts per minute (cpm)

Average background = 7,591 cpm

- Observed Well
- 🏠 Observed Housing Structure
- 🗑️ Observed Waste Pile
- ➔ General Direction Down-Slope
- 🔴 Mine Claim Boundaries

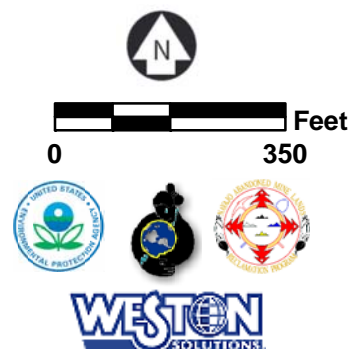
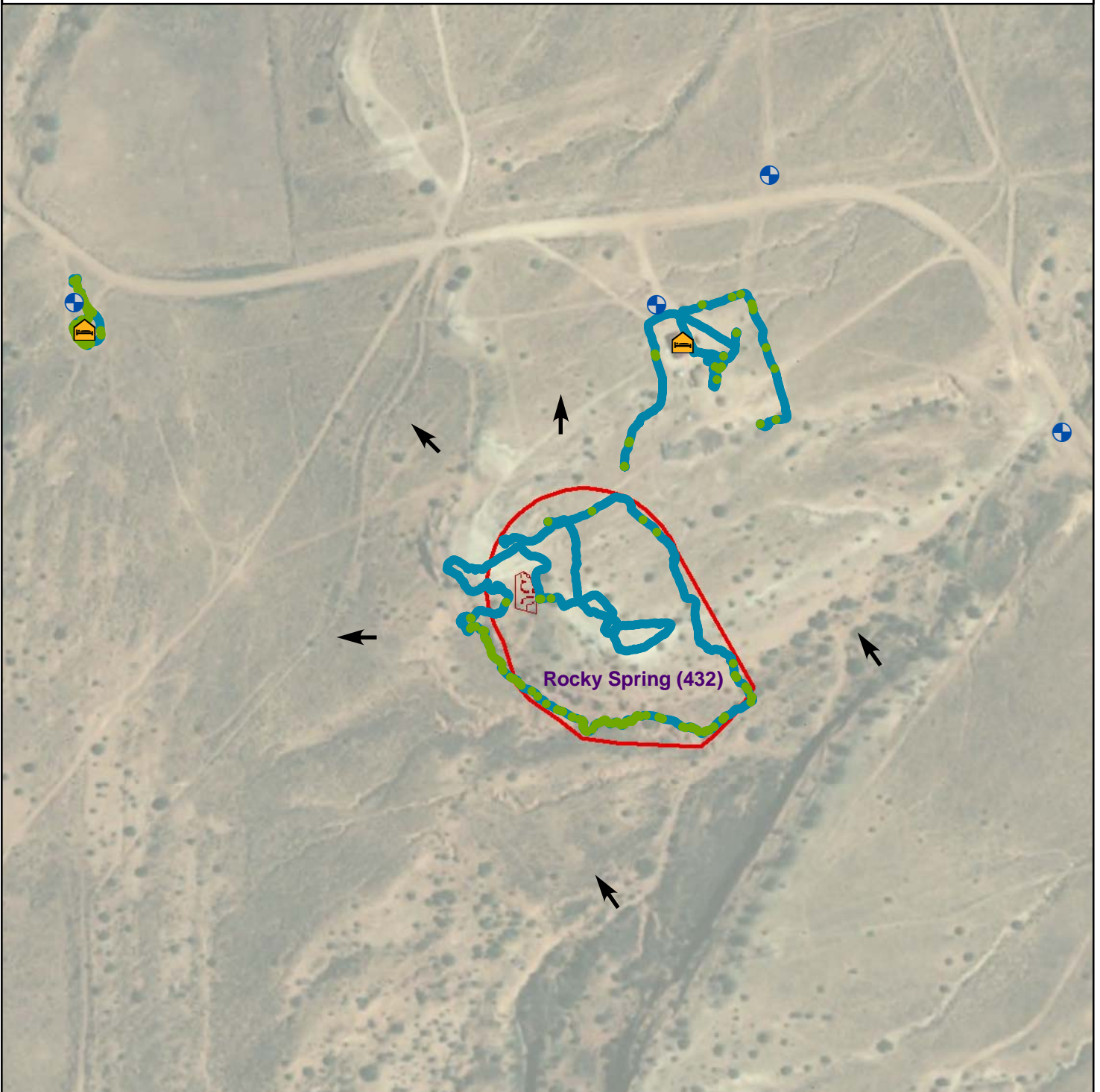


Figure 2 - Gamma Radiation Measurements
Rocky Spring (432)
Red Valley Chapter, Navajo Nation, Arizona



Legend

Gamma Radiation Measurements

- 0 - 10,000
- 10,000 - 15,000
- 15,000 - 20,000
- 20,000 - 50,000
- 50,000 - 100,000
- > 100,000



Observed Well



Observed Housing Structure



Observed Waste Pile



General Direction Down-Slope



Mine Claim Boundaries

Gamma survey conducted 10/2009
 Measured as counts per minute (cpm)

Average background = 7,591 cpm



0 350 Feet



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